



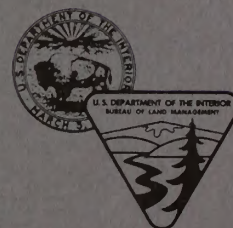
River Management Plan

DELTA RIVER

A component of the National Wild and
Scenic Rivers System



U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ANCHORAGE DISTRICT, ALASKA



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River Management Plan
for the
Delta National Wild and Scenic River

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U.S. Department of the Interior
Bureau of Land Management
Anchorage District, Alaska

Recommended by: Wayne A. Boden Oct. 6, 1983
ANCHORAGE DISTRICT MANAGER DATE

Approved by: Chris McVee Oct 7, 1983
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Report of the
for the
Dalla National Wild and Scenic River

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Washington, D.C. 20540

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CONTENTS

PART I – INTRODUCTION

page

Background	1
The Setting	2
River Corridor Description	4
RIVER CHARACTER	4
FISH AND WILDLIFE	4
SCENERY AND VEGETATION	5
MINERALS	5
CULTURAL VALUES	6
OTHER VALUES AND USE OPPORTUNITIES	6
Boundary Determination	7
LEGISLATIVE CONTROLS	7
BLM POLICY	8
ADDITIONAL CONSIDERATIONS	9

PART II – MANAGEMENT CONSIDERATIONS

Management Objectives	11
Major Issues and Concerns	12
Management Constraints	24

PART III – THE MANAGEMENT PROGRAM

Management Actions	25
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PART IV – APPENDIX

Legal Description	37
Detailed Boundary Maps	43-48

PART I - INTRODUCTION

ILLUSTRATIONS

FIGURES

1	Regional Map	following page	3
2	River Corridor Map	following page	6
3	Index Map	following page	42
3a,3b, 3c,3d, and 3e	Detailed Boundary Maps	pages	43-48

PART I - INTRODUCTION

Background

The Alaska National Interest Lands Conservation Act of December 2, 1980, (ANILCA, P.L. 96-487) established the upper stretch of the Delta River and all of the Tangle Lakes and the Tangle River as a component of the National Wild and Scenic River System to be administered by the Secretary of the Interior through the Bureau of Land Management (BLM). Subject to valid existing rights, ANILCA classified and designated approximately 18 miles of the Delta River as a "recreational" river and approximately 20 miles as a "wild" river pursuant to the Wild and Scenic Rivers Act (WSRA, P.L. 90-542). ANILCA also designated, but did not classify, all of the Tangle Lakes and the Tangle River as a component of this system. Therefore, the issue of classification of these components will be addressed as part of this plan.

The Wild and Scenic Rivers Act declared it a policy of the United States that "selected rivers of the nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

Specifically, Section 10(a) of the Wild and Scenic Rivers Act states that:

Each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as it is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values . . .

By classifying various segments of the Delta Wild and Scenic River (WSR) system as either "wild" or "recreational" and providing the option for classification of the remainder as "scenic," Congress mandated that these segments be managed according to the following objectives:

Wild: "Free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive, and waters unpolluted . . . representing vestiges of primitive America."

Scenic: "Free of impoundments, with shorelines or watersheds still largely primitive and shorelines undeveloped, but accessible in places by roads."

Recreational: "Readily accessible by road or railroad ... have some development along shorelines."

ANILCA also directed the Secretary of the Interior to establish detailed boundaries, prepare a management and development plan, and present this information to Congress by December 2, 1983. In response to these directives, this river management plan establishes the detailed boundaries and develops the management policies for the Delta National Wild, Scenic, and Recreational River.

The Bureau of Land Management intends that these management policies be flexible in order to remain responsive to future management needs while at the same time serving as a standard to assure the protection of the river's resources from possible future changes in resource quality and use.

An Environmental Impact Statement (EIS) for the proposed Delta National Wild and Scenic River, "A Proposal for Protection of Eleven Alaskan Rivers," was approved by the Department of Interior in 1980. The EIS addressed the impact of designating Tangle Lakes, Tangle River, and a portion of the Delta River as a component of the National Wild and Scenic Rivers System.

In addition, this plan has been developed in compliance with Title VIII of ANILCA so that the management policies will cause the least possible adverse impact to the local residents who depend upon the river corridor for subsistence needs.

The Setting

The Delta River watershed from Tangle Lakes downstream to Black Rapids contains approximately 150,000 acres, 160 miles of streams, and 21 lakes. Elevation of the Tangle Lakes is approximately 2,800 feet and the drainage falls 650 feet in 51 miles, for an average gradient of 12.7 feet per mile. The maximum known lake depth is 110 feet in Round Tangle Lake.

The Tangle River flows through and connects several of the lakes in the Tangle Lakes system, which in turn drains into the Delta River. These waters are located in Southcentral Alaska within the mountains of the Alaska Range about 175 miles by road southeast of Fairbanks. The Delta River flows north through the Alaska Range and joins the Tanana River, which flows into the Yukon River (see figure 1).

The topography in the vicinity of the Tangle Lakes and upper Delta River is dominated by the Alaska Range with peaks from 6,000 feet to 9,000 feet. Glaciers occupy some of the slopes of these peaks. The terrain around Tangle Lakes is predominately tundra-covered rolling hills consisting of moraines, eskers, and kettles. The land adjacent to the upper Delta River is made up of steep alluvial slopes and a few rock cliffs.

This area is located within the continental climate zone of interior Alaska. The seasons are characterized by long, severe winters and short, mild summers. Winter temperatures generally range from -30° F to $+30^{\circ}$ F with a recorded low of -59° F. Summer temperatures generally vary from 35° F, to 70° F with occasional highs in the 80's. Mean annual snowfall is approximately 110 inches. Short summer showers occur frequently in the Tangle Lakes area. The autumn freeze usually occurs in October and the spring thaw normally comes in late May or early June.

The first recorded use of the Delta River was as a route of exploration by the U.S. Army in 1898. At that time, Walter Mendenhall, a geologist with the U.S. Geological Survey, noted a well marked and established trail in the Delta River area. Aboriginal use of this route may date back to just after the last ice age.

Prior to construction of the Denali Highway in the early 1950's, the headwaters of the Delta River at Tangle Lakes were not accessible to highway vehicles. Use of this area began in earnest in 1952, when it became accessible via the Denali Highway.

Access to the Tangle Lakes area is via the Denali Highway on 21 miles of pavement from Paxson or on 114 miles of gravel road from Cantwell. Floatplanes land on many of the lakes in the Tangle Lake system. The Richardson Highway parallels the Delta River from its confluence with Phelan Creek to Black Rapids and beyond. Air boats and boats with jet units are used for going upstream from the Richardson Highway.

The Tangle Lakes Campground at mile 21 Denali Highway has a boat launch as well as camping facilities. This boat launch provides access to the lower Tangle Lakes, which drain into the Delta River. Nearly all of the people who float the Delta River take out just below Phelan Creek at mile 212 on the Richardson Highway, although the exact take-out location varies from year to year due to changes in the river channel. Parking is available adjacent to the Richardson Highway.

A boat launch is also located in Tangle River Campground at mile 22 Denali Highway. This launch provides access to the upper Tangle Lakes and Tangle River. A 1-mile portage from one of the upper Tangle Lakes to Dickey Lake provides access to floatable headwaters of the Gulkana River drainage since Dickey Lake drains into the Middle Fork Gulkana River.

River Corridor Description

RIVER CHARACTER

The Delta River is a clearwater stream with excellent water quality as it leaves Lower Tangle Lake. From the outlet of the lake to the 15-foot waterfall 2 miles downstream, it is about 130 feet wide and averages one foot deep with a bottom composed of boulders and coarse gravel. It flows at a relatively low velocity through a series of riffles and pools. A one-fourth-mile-long portage provides a route around the waterfall. Below the waterfall the river width narrows to approximately 60 feet and the velocity increases significantly.

Approximately 4 miles below the falls, the river slows and becomes deeper. Bottom composition changes to gravel and sand, and the river is braided into several channels with an average width of 35 feet. Beaver dams on some of these channels have created ponds which provide for excellent grayling fishing.

Approximately 3 miles above its confluence with Eureka Creek, the Delta River slows considerably. As it flows through this section, the river is approximately 100 feet wide and 3 feet deep, with a bottom composed of sand and silt.

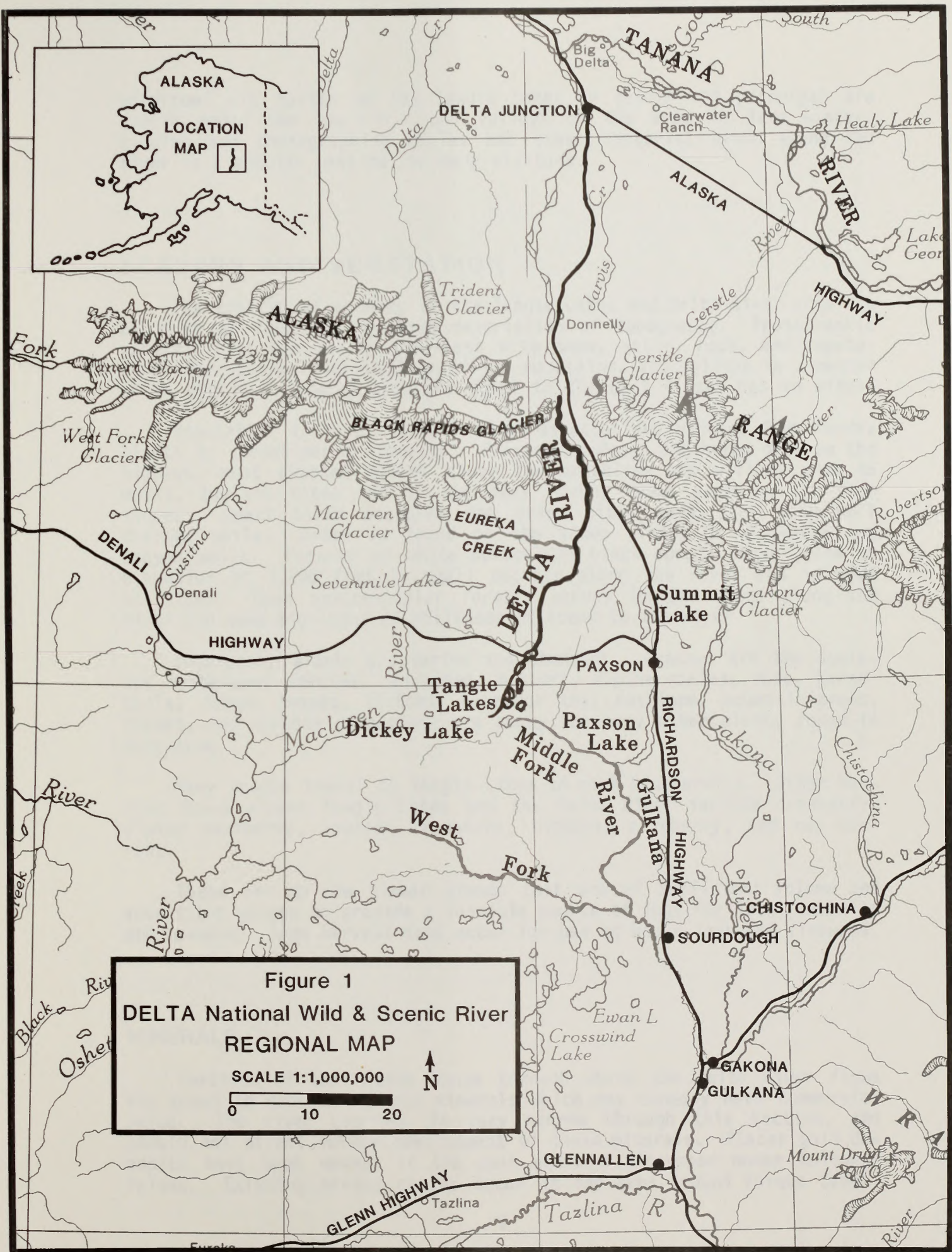
From the confluence of Eureka Creek downstream for approximately 22 miles to Black Rapids, the river is characteristic of many Alaskan glacial rivers with silty, turbid water and numerous braided channels. The average stream width is 200 feet and the main channel averages 4 feet in depth.

FISH AND WILDLIFE

Tangle Lakes and the Delta River contain grayling, round whitefish, lake trout, burbot, and longnose suckers. Most fishing is for grayling, but good lake trout fishing is available in late winter and early spring.

Wildlife is an important resource, which provides for sport hunting, trapping, wildlife photography, and wildlife viewing. Hunters in this area seek moose, caribou, bear, Dall sheep, and snowshoe hare. Trappers concentrate on taking beaver, fox, wolf, marten, lynx, wolverine, otter, muskrat, and mink. Twenty-one other species of mammals also inhabit this area. Encounters with grizzly bears occur, but are uncommon.

Most of the 110 species of birds found in this area are only summer residents; most migrating species arrive in May and leave in September.



Waterfowl are hunted on the Tangle Lakes in autumn and ptarmigan are hunted among the low hills and valleys of the area in late winter. Viewing and photographing eagles and other raptorial birds along the river is a popular pastime for many visitors.

SCENERY AND VEGETATION

The quality of scenery in the Tangle Lakes and Delta River area can be surmised from the previous description of topography. Photographic opportunities are nearly limitless with snow, water, rock, and vegetation interspersed over rolling hills, mountains, and valleys in a manner which provides viewing pleasure equal to the best Alaska has to offer.

Vegetation includes various plant associations ranging from tundra plants to spruce-poplar forests. Grasses, sedges, and herbs grow on the highest, most exposed slopes above the brushline and willows grow on moist, lowland sites and in the many brushy draws draining the side slopes. Dwarf birch occupies the drier sites associated with well drained soils. Alder is found on the steep slopes of hillsides and canyon walls. Forests of white spruce and black spruce occur below an elevation of 3,200 feet in small pockets along the river and on some hillsides. Open spruce-poplar forests occupy lowland sites along the river and some midslopes of hillsides adjacent to the river.

Understory plants are varied and abundant. Grasses are the dominant herbaceous species. Fireweed, bistort, alpine azalea, rose, horse-tails, ferns, mosses, lichens, Labrador tea, cassiope, mountain-avens, burnet, and shrubby cinquefoil are among the many other plants found in this area.

Many people travel to Tangle Lakes to pick blueberries. Other berries found around Tangle Lakes and the Delta River include crowberry, alpine bearberry, lowbush cranberry, highbush cranberry, and red currant.

There are no saw timber stands that are of sufficient volume and accessible enough to provide a feasible source of logs for local sawmills and markets. Some harvest does occur for use as house logs and firewood.

MINERALS

Portions of the Alaska Range through which the Delta River flows are known to contain various minerals which may someday have commercial value. The river corridor is very narrow through this section, and should not affect future development of these minerals. Placer gold deposits have been worked in the past and are discussed under Cultural Values. Existing mining claims occur in the area around Eureka Creek

and extend downstream to below Rainy Creek (see figure 2), but no major work has occurred on these claims except for some exploratory work. Because most of the area covered by these claims is within the glacial portion of the Delta River on the floodplain, little or no conflict with other river values is anticipated if these claims are developed.

The Delta WSR area lies to the north of, and does not extend into, the low potential petroleum province underlying the Copper Basin. However, petroleum leases occur on land adjacent to the river corridor throughout its length. The Minerals Management Services determined that the land within these leases is not within a favorable petroleum geological province as of March 1983.

Jarvis Creek coalfield, considered to be a major coalfield, lies about 8 miles northeast of the end of the designated portion of the Delta River. Development of this coalfield will not affect river values in the designated corridor.

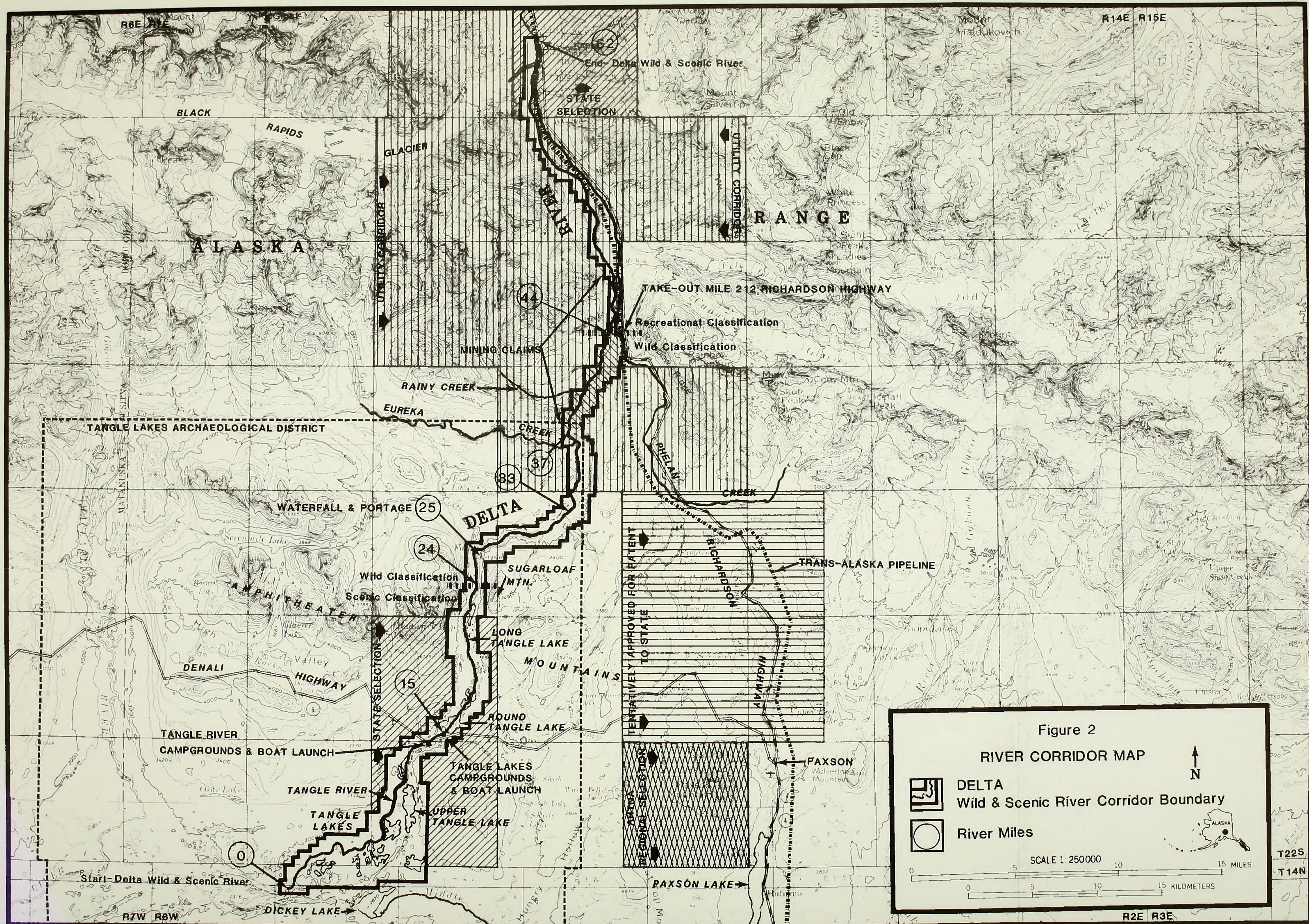
CULTURAL VALUES

All of the Tangle Lakes, the Tangle River, and the "wild" section of the Delta River are within the Tangle Lakes Archeological District which is listed on the National Register of Historic Places. Many known prehistoric archeological sites are located within the designated scenic river and wild river areas, and hundreds of other sites are expected to exist within these areas. Cultural resources of the historic period include a cabin site along the Delta River and a trail route along Eureka Creek. Rainy Creek was a historic gold-mining area within the Eureka mining district, which was organized in 1900. Mining activity was distributed all along Rainy Creek. A maximum of 250 men worked the area for gold between 1900 and 1910.

OTHER VALUES AND USE OPPORTUNITIES

Hiking and camping opportunities are excellent. Relatively sparse vegetation and gravel soils throughout this area facilitate the dispersal of both of these activities. Most use, however, takes place near the lakes and streams. Two developed campgrounds are located adjacent to the Denali Highway where it crosses the Tangle Lakes area, and two commercial lodges which provide food, gas, and lodging are also in this area (see figure 2).

BLM estimates that approximately 100 people floated the Delta River in 1970, spending an average of 3 days on the river and accounting for approximately 300 user-days. Use in 1976 was estimated to be 1300 user days and, in 1979, a nearly 100 percent sample of river use indicated that over 500 people floated the Delta River from Tangle Lakes to milepost 212 on the Richardson Highway, amounting to 1505 user-days. This



is a substantial increase in use, and indications are that this trend will continue as the population of the state expands and tourism increases. In addition to this use, several thousand people use the area around Tangle Lakes for other recreation activities including ORV use, berrypicking, hunting, and fishing.

Subsistence use of the Tangle Lakes, Tangle River, and Delta River involves spearing whitefish and gathering berries and firewood. Several hundred people pick berries in this area. Two or three families utilize the Tangle Lakes and Tangle River for subsistence fishing. Most firewood is gathered for campfires, but some residents of the area do cut firewood to heat their homes.

Other opportunities available within this area include rock and fossil collecting; plant collecting; studying glacial features such as rock glaciers, moraines, kettles, kames, and eskers; and various other types of nature study and enjoyment. A rock glacier near the outlet of Lower Tangle Lake and the active Black Rapids Glacier at the end of the recreational river section provide interesting viewing. There are outstanding scenic values in the area.

Boundary Determination

LEGISLATIVE CONTROLS

ANILCA classified and designated that, subject to valid existing rights, (1) 20 miles of the Delta River from the outlet of Lower Tangle Lake (Township 20 South, Range 9 East, Section 25, F.M.) downstream to a point opposite milepost 212 on the Richardson Highway (Township 18 South, Range 10 East, Section 24, F.M.) be administered as a "wild" river pursuant to the Wild and Scenic Rivers Act; and (2) 18 miles of the Delta River from a point opposite milepost 212 on the Richardson Highway, at the end of the "wild" section of the Delta River, downstream to a point one-half mile north of Black Rapids (Township 16 South, Range 10 East, Section 17, F.M.) be administered as a "recreational" river pursuant to the Wild and Scenic Rivers Act (see figure 2).

ANILCA also designated, but did not classify, all of the Tangle Lakes and the Tangle River from the uppermost Tangle Lake (Township 13 North, Range 5 West, Section 6, C.R.M.) to the outlet of Lower Tangle Lake (Township 20 South, Range 9 East, Section 25, F.M.), a stretch of 24 miles, as a component of the system pursuant to the WSRA.

ANILCA further amended the WSRA to authorize the establishment of a river corridor boundary which may include up to an average of 640 acres per rivermile for all designated Alaskan Wild and Scenic Rivers. This corridor may not include any lands owned by the State or a political subdivision of the State, nor shall the boundary extend around any private lands adjoining the river in such a manner as to surround or effectively surround such private lands.

BLM POLICY

For the purposes of preparing a detailed boundary for the Delta National Wild, Scenic, and Recreational River the following policies were applied:

- The acreage limitation for the river corridor has been measured outward from the ordinary high watermark along the shoreline and does not include islands in the river or the riverbed.
- Those portions of the Delta Wild, Scenic, and Recreational River which in their natural and ordinary condition were used or were capable of being used as a "highway of commerce" as of Alaska Statehood in 1959, are considered navigable for title purposes. For those portions which may be determined to be navigable, the State of Alaska retains ownership of the riverbed between ordinary high watermarks and such lands are not included within the boundary.

Although a final determination of navigability has not been made for the Delta River, Tangle Lakes, and Tangle River, preliminary findings of the BLM are that they are non-navigable. This means that the beds of the waterbodies comprising the Delta WSR system, between ordinary high watermarks, belong to the Federal government and have been included in the WSR corridor boundary.

- While islands in the river are not used to determine the total acreage, for the navigable sections of the rivers, islands which are stable, vegetated, and not subject to flooding are included within the boundary. All islands in the non-navigable sections of the river are also included in the boundary.
- A review of State land selections and Federal mining claims has been made. If current BLM land records identify a land parcel as non-Federal or identify a prior right which will result in the transfer of a land parcel from Federal ownership, these parcels and their traditional access routes are excluded from the river corridor boundary. Examples of such prior rights are State and Native land selections, settlement claims, and Native allotments.
- Under this river management plan and consistent with the regulations found in Title 43 of the Code of Federal Regulations, Subpart 3809, reasonable access will be provided for miners to reach properly located and maintained claims. Inclusion of mining claims within

the river corridor boundary of the Delta National Wild, Scenic, and Recreational River should not be construed as being an administrative action challenging the rights of claim holders under the U.S. Mining Laws. Lands within one-half mile of the bank of any Alaskan river designated a wild river have been withdrawn, subject to valid existing rights, from all forms of appropriation under the mining laws and the mineral leasing laws by Section 606 of ANILCA. When mineral patent has been applied for and requirements for patent met, the rights will be patented and reasonable access to enjoy those rights will be provided in accord with Section 9(a)(ii) of the WSR, 16 U.S.C. 1280 (a)(ii).

- Should any privately claimed or State selected lands not pass from Federal ownership, these lands and their access routes will be encompassed by the adjacent river corridor boundary so long as such inclusions do not exceed the acreage limitations contained in Section 103(b) of ANILCA.
- Where private lands are adjoining, they will be excluded from the river corridor by a common external boundary, and access will be provided to the entire block via the most commonly used route.
- All non-Federal interests and their access have been identified on the maps appended to this report.

ADDITIONAL CONSIDERATIONS

In addition to being affected by these legislative controls and BLM policies, the boundary was adjusted to protect important resource values such as crucial wildlife habitat and interesting geologic formations. Boundaries were drawn to include as much of the most frequently used areas as possible. The corridor is widest around Tangle Lakes and the clearwater section of the Delta River where most recreation use occurs. These areas are also the most primitive. Utilizing most of the authorized acreage here helps protect this primitive character. The corridor is narrow along the recreational section of the Delta River since the boundaries here were drawn to exclude as many mining claims and as much development as possible.

The boundaries were also drawn to exclude much of the utility corridor, which is a 6-mile- to 18-mile-wide corridor originally established as a route for the Trans-Alaska Pipeline System. Subsequent uses of the utility corridor may include additional pipelines and power transmission lines.

The final boundary was then further adjusted to reference protracted survey section lines (minimum 40-acre parcels) whenever possible to simplify the legal description of the boundary.

Therefore, based upon the designated beginning and ending points and the legislative controls, policies, and considerations described herein, the acreage contained within the Delta National Wild and Scenic River corridor boundary is approximately 37,000 acres.

For further information on the boundary, see the legal description and the detailed maps in the Appendix of this report.

ADDITIONAL CONSIDERATIONS

PART II – MANAGEMENT CONSIDERATIONS

Many factors have to be considered in the development of "Part III, The Management Program." This section (Part II) is designed to present information from the general public, the final E.I.S. ("A Proposal for Protection of Eleven Alaskan Rivers"), various laws, regulations and policy of Federal, State and local government, so that the "Management Objectives," "Major Issues and Concerns," and the "Management Constraints" can be identified and clearly defined prior to development of the "Management Program."

Management Objectives

The Wild and Scenic Rivers Act requires that a national wild and scenic river be administered to protect and enhance the values for which it was designated, without limiting other uses that do not substantially interfere with public use and enjoyment of these values. In conformance with this requirement, the following management objectives have been established for the Delta National Wild and Scenic River:

- Preserve the river and its immediate environment in its natural, primitive condition.
- Provide for public health, safety, and enjoyment within the river management corridor.
- Maintain or enhance resource values.
- Establish the level and distribution of recreational river carrying capacity.
- Establish limits on uses within the river management corridor.
- Preserve the free-flowing condition of the waters within the river corridor.
- Prevent degradation of the water quality.
- Provide for utilization of resources within the corridor in a way that will leave the existing environment unimpaired for future generations.
- Protect valid existing rights and future rights granted pursuant to appropriate Federal and State laws.
- Maintain or enhance fish and wildlife habitats.

Major Issues and Concerns

The following discussion represents those major issues and concerns which were determined after public input and management evaluation to be important to the development of the management program.

ITEM 1 - SURFACE TRANSPORTATION

Issue: What access routes and types of motorized equipment and vehicle use can be allowed within the boundaries of the wild, scenic, and recreational river?

Situation

Vehicle use within the river corridor has not yet caused significant surface disturbance, but some disturbance has occurred, and there is potential for significant disturbance to scenic and cultural resources. The present principal use is by mining claimants to get to mining claims both within and across the corridor, and by hunters, fishermen, trappers, and others who use off-road vehicles, snowmachines, and boats with motors. The recreational stretch of river is paralleled by the Richardson Highway at a distance of 50 feet to one mile. The Denali Highway passes through the center of the Tangle Lakes area.

Considerations

- Regulations affecting access to, through, or across the river corridor should not be a means to deny reasonable access to, or prohibit development of, resources adjacent to the corridor, but rather to assure that access will be obtained in a manner which causes the least possible impact on users; promotes safety; protects soil, vegetation, and scenery; prevents harassment of wildlife; and prevents conflicts with other uses.
- All of the scenic stretch and nearly all of the wild stretch of the river corridor is within the Tangle Lakes Archeological District, which has an off-road vehicle plan in effect. This plan allows ORV use on most existing trails.
- Trappers and other people use snowmachines in winter throughout the river corridor.
- Many mining claims lie within and adjacent to the river corridor. Access to these claims is often by airplane or motorboat, but the movement of heavy mining equipment to claims across the river cor-

ridor usually occurs during the winter when frozen ground and ice limit the amount of resource damage.

- Several hundred fishermen and hunters use relatively small motorboats on the Tangle Lakes to gain access to hunting and fishing areas. Occasionally larger boats and motors are used on these lakes, and the noise and wake they produce have caused conflicts with floatboaters and other recreationists.
- Wild river areas must be generally inaccessible except by trail (WRSA Section 2).

ITEM 2 - AIRCRAFT USE

Issue: Where should aircraft use be allowed within the wild, scenic, and recreational river corridor?

Situation

Aircraft are currently used within the river corridor to get to mining claims and hunting and fishing areas by landing at the Tangle Lakes, or on a slow stretch of the Delta River upstream from the Eureka Creek confluence, or on one airstrip that is used for a group of mining claims. Aircraft use within the river corridor is not expected to increase significantly because much of the corridor is accessible from the Denali or Richardson Highways or by boat.

Considerations

- Aircraft have been and are being used for access to a group of mining claims south of Eureka Creek where a private airstrip has been cleared for these claims.
- Aircraft landing and take off within the river corridor could diminish the primitive qualities for which the river was designated.
- Aircraft operation on the Tangle Lakes is a valid current use.
- Aircraft operation on the relatively narrow wild stretch of the Delta River could be dangerous for river users.

ITEM 3 - SUBSISTENCE

Issue: What subsistence uses can continue to occur within the river corridor?

Situation

Subsistence use of the river corridor involves spearing whitefish and gathering berries and firewood. Very few people spear whitefish or gather firewood within the corridor, but several hundred people gather berries in the Tangle Lakes area.

Considerations

- Subsistence use of fish and wildlife is regulated by the Alaska Department of Fish and Game (WSRA Section 13, ANILCA Section 1314).
- Most firewood is gathered for campfires but some residents of the area do cut firewood from within the corridor to heat their homes.
- Subsistence gathering of berries is also considered to be a primary recreation use of the area.

ITEM 4 - HUNTING, FISHING, AND TRAPPING

Issue: What effect does designation and classification as a wild, scenic, or recreational river have on hunting, fishing, and trapping?

Situation

Fishing is the number one recreational pursuit of people who use the Tangle Lakes and Delta River. Hunting for waterfowl, upland game, and big game is a valid existing use, as is trapping during the winter.

Consideration

- The WSRA and ANILCA preserve the existing rights of States and provide that hunting and fishing will be permitted in system rivers in accordance with applicable State and Federal laws (WSRA Section 13, ANILCA Section 1314).

ITEM 5 - WATER QUALITY

Issue: How will water quality be protected within the river corridor?

Situation

The clearwater stretch of the river corridor including Tangle Lakes, Tangle River, and the Delta River downstream to its confluence with Eureka Creek is clear and free of debris and objectionable odor or colors. Downstream from Eureka Creek the Delta is a glacial river with the characteristic channels and heavy sediment loads. Man-caused water pollution appears to be non-existent on the entire wild and scenic river.

Considerations

- State water quality standards approved in 1973 by the Environmental Protection Agency prohibit degradation of existing water quality by human activities.
- The WSRA declared a policy that the water quality of rivers within the wild and scenic river system is to be protected.
- To maintain the existing high quality of lake and river fisheries, the present water quality must be maintained.

ITEM 6 - MINERAL DEVELOPMENT

Issue: How can mineral development be managed to minimize adverse effects on resource values for which the river was designated?

Situation

The Denali/Tiekel amendment to BLM's Southcentral Management Framework Plan resulted in a Public Land Order (PLO 6329) which opened most of the land adjacent to, but not within the river corridor for mineral location under the US mining and mineral leasing laws.

At present, only small scale placer exploratory work has occurred on mining claims along the Delta River. However, if claims along the clearwater stretch of the Delta River are developed, the result could be an increase in water turbidity and a reduction in the scenic values normally associated with a wild river. Since past attempts to recover the small amount of gold contained in the gravel in this area were abandoned because the work was not profitable, the potential problems will most probably not occur.

Considerations

- The valid existing rights of mining claimants are protected by law.

- Implementation of regulations will increase the cost and time to develop mining claims.
- Approved Plans of Operations are required for all mining operations and related activities in accord with 43 CFR 3809.
- That portion of the river corridor within the utility corridor is included in that section of PLO 5150 which withdrew public lands from prospecting, location, and purchase under the US mining laws.
- ANILCA (Section 606) amended WSRA (Section 9) to withdraw minerals in Federal lands within one-half mile of a wild river in Alaska from all forms of appropriation under the mining laws and mineral leasing laws.
- The Alaska Department of Transportation and Public Facilities requires material sources for highway construction and maintenance along the recreational section of the river corridor.

ITEM 7 - FACILITIES

Issue: Where should facilities be installed and maintained within the wild, scenic, and recreational river corridor?

Situation

At present there are two campgrounds with boat launching, camping, and toilet facilities within the scenic stretch of the river corridor at Tangle Lakes adjacent to the Denali Highway. Facilities within the wild stretch are limited to several signs, a $\frac{1}{4}$ mile-long portage around the waterfalls, and a toilet at the lower end of the portage. The only facilities on the recreational stretch are two signs at the take-out near mile 212 Richardson Highway. Maintenance of the portage and toilet at the portage, and litter pick-up on river banks and lake shores occurs about three times each year. Major campground maintenance occurs as needed, and campground facilities are cleaned and litter is removed three times each week from June through September.

Considerations

- Facilities in the wild stretch should be primitive in nature and installed only to protect health, safety, and the natural resource values.
- The public has generally opposed installation of new facilities in the wild stretch of the river corridor.
- Existing put-in and take-out facilities are adequate for existing and projected use.

- Interpretive facilities at the put-ins could enhance the enjoyment of river users.
- Present maintenance of campground facilities at Tangle Lakes is adequate.
- Litter pick-up throughout the river corridor could be improved.

ITEM 8 - VISITOR MANAGEMENT

Issue: How should visitor use be managed to prevent degradation of the existing resource values.

Situation

Because of outstanding natural beauty, accessibility, primitive character, and high-quality fishing, hunting, berry picking, and photographic opportunities the Delta River and Tangle Lakes have become one of the most popular river-and-lake systems in Alaska. Their popularity has continued to increase in recent years, resulting in ever increasing recreational use along with increased impacts associated with those uses. The toilet at the portage now requires frequent maintenance, and the amount of litter within the corridor is increasing. Large groups on the river sometimes interfere with the solitude sought by smaller parties. Camping techniques suitable in Alaska in years past are still being used along the river corridor by an increasing number of people, creating noticeable impacts.

Considerations

- It is BLM recreation management policy to provide for the health and safety of visitors to land managed by BLM.
- A carrying capacity for the river corridor ecosystem should be established to serve as a guide for setting level of use at a point where existing resource values can be maintained. Knowing the carrying capacity would also help to allocate use between private users and commercial recreation float-trip operators.
- Interpretive methods can be used to enhance visitor enjoyment and promulgate river management policies.
- Public comment has indicated that the size of groups floating the Delta River should be limited.
- All public comment received concerning launch frequency opposed separating groups by setting a minimum time between launchings.

- Competitive events such as canoe, raft, or kayak races could lessen a primitive experience for other groups on the wild stretch of river.
- Minimum-impact camping techniques adopted by several outdoor groups such as the National Outdoor Leadership School have served to reduce impacts to recreation resource values.

ITEM 9 - HISTORIC AND ARCHEOLOGICAL RESOURCES

Issue: How will historic and archeological resources within the river corridor be protected?

Situation

The Tangle Lakes Archeological District, which is listed on the National Register of Historic Places, encompasses all of the Tangle Lakes and Tangle River and nearly all of the wild stretch of the Delta River. Many known prehistoric archeological sites are within the boundaries of the scenic and wild stretches of the river corridor, and many other sites are expected to be found within this area.

Considerations

- Most of the river corridor has not been adequately inventoried for cultural resources.
- The Antiquities Act, National Historic Preservation Act, and Archeological Resources Protection Act are three major acts which require BLM to protect cultural sites on public lands. Recreational use may be affecting some of the sites within the river corridor.
- Interpretation of cultural resources can help the public understand the importance of these resources and add to their enjoyment of the area.

ITEM 10 - FIRE MANAGEMENT

Issue: How will wildfire be managed within the river corridor?

Situation

It appears that no major fires have occurred within the river corridor for the past 100 years. The area is covered with snow from October through most of May, and rain showers occur frequently during the short summer. Fire protection for the river corridor is a responsibility of BLM, but under a memorandum of agreement the State is the authorized fire suppression organization for this area. An interagency fire management plan is being drafted for a portion of Southcentral Alaska which includes the river corridor.

Considerations

- The boreal forest is a fire-dependent ecosystem, which has evolved in association with fire, and will lose its character, vigor, and faunal and floral diversity if fire is totally excluded.
- Although fire plays an essential ecological role, it also has destructive potential in relation to human life and values.
- Prescribed burns play an important role in wildlife habitat management by providing browse on the moose winter range (Delta River Habitat Management Plan 1980).

ITEM 11 - STATE AND PRIVATE LANDS

Issue: How will State and private lands adjacent to the river corridor be affected by the river management program?

Situation

Non-Federal lands adjacent to the boundary of the river corridor include about 20 acres of patented lands comprised of small tract parcels, headquarter sites, trade and manufacturing sites, and 25 acres of patented State parcels. The State has selected the two townships encompassing the Tangle Lakes (Tps. 21 and 22 S., R. 9 E., FM). However, since this area was not available for selection at the time the river corridor was designated a component of the wild and scenic rivers system by ANILCA, the State will only receive validly selected land located outside the final river corridor boundary.

Considerations

- No private or State land will be included within the boundaries of the wild and scenic river nor will the boundaries extend around these lands in such a manner as to surround or effectively surround private lands (ANILCA Section 606).

- The WSRA (Section 6) states that fee title to any lands within the river corridor shall not be acquired by condemnation if 50 percent or more of the acreage within the river corridor is owned by the United States.

ITEM 12 - BIOTIC RESOURCES

Issue: How will the soils, watershed, and vegetation within the river corridor be managed to ensure protection of their present values?

Situation

Most of the watershed of the Delta River remains in an undisturbed natural condition although some of the area has been modified by road construction, pipeline construction, and other development.

Considerations

- Soils and vegetation within the watershed affect the quality of water in the Tangle Lakes and Delta River.
- WSRA requires that each component of the national wild and scenic rivers system be administered to protect and enhance the values which caused it to be included in the system.
- The Delta River Habitat Management Plan outlines actions for protecting and enhancing fish and wildlife habitat.

ITEM 13 - SCENIC QUALITY

Issue: How will the existing natural scenic qualities within the river corridor be protected?

Situation

Most of the scenery around Tangle Lakes and the wild stretch of the Delta River is outstanding and is in a natural primitive condition. The area east of the recreational stretch has been modified by highway and pipeline construction.

Considerations

- The outstanding quality of the existing scenery was a major reason for including the Tangle Lakes and Delta River in the wild and scenic rivers system.
- The WSRA (Section 10) allows for changes in the existing landscape if those changes do not substantially interfere with public enjoyment of the scenery.

ITEM 14 - PIPELINES AND ELECTRICAL TRANSMISSIONS

Issue: Will additional pipelines and other utility lines be allowed within the river corridor?

Situation

A portion of the wild stretch of river and all of the recreational stretch is within the utility corridor originally established as a route for the Trans-Alaska Pipeline System. Construction of a liquid natural gas pipeline through this utility corridor has been proposed.

Considerations

- The purpose of the utility corridor is to serve as a route for pipelines, power transmission lines and other utility lines.
- ANILCA allows for transportation and utility corridors across wild and scenic rivers (Section 1105).
- WSRA allows for easements and rights-of-way upon, over, under, across, or through any component of the national wild and scenic rivers system (Section 13).
- The scenery and other values along a wild and scenic river must be protected.

ITEM 15 - OIL AND GAS DEVELOPMENT

Issue: How will oil and gas exploration and development be affected by the river corridor?

Situation

The Denali/Tiekel amendment to BLM's Southcentral Management Framework Plan resulted in a Public Land Order (PLO 6329) which opened most of the land adjacent to but not within the river corridor for mineral location and oil and gas exploration under the United States mining and mineral leasing laws. However, the potential for commercial deposits of oil and gas in the area around the river corridor is considered to be low.

Considerations

- Utility corridor.
- ANILCA (Section 606) amended WSRA (Section 9) to withdraw minerals in Federal lands within one-half mile of a wild river in Alaska from all forms of appropriation under the mining laws and mineral leasing laws.
- The WSRA does not prohibit mining and mineral leasing within the boundaries of scenic or recreational rivers but does provide for regulating activities associated with this industry (Section 9).

ITEM 16 - NAVIGABILITY

Issue: How will a navigability determination for the Delta River and Tangle Lakes affect this management plan?

Situation

Preliminary findings of the BLM are that the Delta River is non-navigable. The navigability situation has been discussed under BLM policy for boundary determination.

Considerations

- The State owns the bed of navigable waters up to the ordinary high water mark.
- The wild and scenic river boundaries will not include land owned by the State.
- The WSRA (Section 10) provides for a cooperative agreement with the Governor of a State to participate in the administration of a wild and scenic river.

ITEM 17 - CLASSIFICATION OF THE TANGLE LAKES AND TANGLE RIVER

Issue: What WSRA classification (wild, scenic, or recreational) will be applied to the 24-mile Tangle Lakes and Tangle River segment of the river corridor?

Situation

ANILCA designated, but did not classify, all of the Tangle Lakes and Tangle River as part of the Delta River component of the WSR system. Congress thus gave BLM the responsibility of classifying this segment of the Delta WSR corridor.

Considerations

- The Bureau of Outdoor Recreation (BOR) recommended that this segment of the river corridor be classified as "scenic."
- As a result of subsequent study of this segment the BLM concurs with the BOR recommendation.
- This segment meets the criteria for "scenic" classification contained in the WSRA.
- The Denali Highway passes through this segment.

ITEM 18 - WATER RIGHTS

Issue: Does the assignment of water rights to individuals within the Delta WSR watershed by the State of Alaska conflict with the intent of the WSRA to preserve the free-flowing condition of the waters, and what quantity of water in the Tangle Lakes, Tangle River, and the Delta River is necessary to meet the requirements of ANILCA and the WSRA?

Situation

Water rights within the Tangle Lakes, Tangle River, and Delta River watershed can be assigned to individuals by the State of Alaska. The WSRA created a Federal reserved water right for the unappropriated waters in the Tangle Lakes, Tangle River, and the upper 38 miles of the Delta River. The volume of water necessary to fulfill the requirements of the act has not been determined.

Considerations

- The jurisdiction of the State over waters within the river corridor may be exercised only to the extent that such jurisdiction does not impair the purposes for which the national WSR was established (WSRA Section 13).

Management Constraints

Constraining factors which, because of law, policy, regulation or circumstances, influenced the development of the management program include:

- The provisions of the WSRA, ANILCA, the Federal Land Policy and Management Act, the National Environmental Protection Act, the 1872 Mining Law (as amended), Trans-Alaska Pipeline Authorization Act of 1973, the Alaska Statehood Act, the National Historic Preservation Act, and the Archeological Resources Protection Act. These and other laws provide a framework for the regulations and policy that direct the decision process leading to management actions.
- The existing situation, to include: past and present uses of the area by man; agency capability for management of the resources and resource users; the resources of the region; existing BLM management plans for this area; and a Memorandum of Agreement between the Advisory Council on Historic Preservation, the BLM, and the Alaska State Historic Preservation Officer; and funding to hire summer employees to work in remote areas.
- The existing management responsibilities of the State of Alaska which include fish and game management, surface water quality, and the public roads in the area.

PART III – THE MANAGEMENT PROGRAM

The following management actions are the result of a careful evaluation of the objectives, issues and concerns, and constraints discussed in Part II of this report. Every reasonable attempt has been made to accommodate the concerns of the various user groups without compromising the values for which the river was designated. This management program will be evaluated periodically to determine what, if any, changes are necessary to ensure the continued protection of the river's values.

Management Actions

ITEM 1 - SURFACE TRANSPORTATION

Action 1.1: Overland transportation systems within or across the river corridor may be authorized if it is determined that there are no economically feasible and prudent alternative routes (ANILCA Sec. 1105).

Discussion

Any authorized transportation system must be compatible with river values. Any authorized transportation system will be located and constructed in an environmentally sound manner and in a manner that does not interfere with or impede stream flow or transportation on the river. Locations and construction techniques will be selected to minimize adverse effects on subsistence, scenic, recreational, fish and wildlife, and other values of the river area (WSR Guidelines, 1982, and ANILCA, Section 810).

Action 1.2: Non-motorized surface transportation methods within the river corridor will be permitted without specific authorization for traditional activities and for travel to and from private land.

Discussion

This action may be subject to reasonable exceptions to protect the natural and other values of the river corridor (such as critical wildlife habitat).

Action 1.3: Motorized equipment of any kind is prohibited within the "wild" section of the river corridor with the following exceptions:

- Off-road vehicles may be operated on certain existing trails in accord with existing off-road vehicle designation for Tangle Lakes Archeological District and on all other trails outside the District.

- Owners of valid mining claims and their employees may use motorized equipment to carry out their mining activities in accord with 43 CFR 3809 and the Tangle Lakes Archeological District off-road vehicle designation.
- Snowmachines may be used from October 15 through April 15.
- Existing use of motorized boats for upstream access may continue.
- Motorized equipment may be used for fire suppression, rescue work, and other emergency work if approved by the Area Manager.

Discussion

The use of motorized equipment detracts from the primitive setting of the "wild" section of the river corridor. Most mining claims have valid existing rights. Snowmachine use between the listed dates is in accord with the Tangle Lakes off-road vehicle designation. Prohibiting snowmachine use during the winter would affect the income of several trappers. The only known winter time use is by trappers and miners. The operation of motorized equipment that becomes a safety hazard or that affects other users detrimentally may be limited or prohibited.

Action 1.4: The size of motors used on boats in the "scenic" section of the river corridor (Tangle Lakes) is limited to a maximum 15 horse-power.

Discussion

Larger sized motors are not necessary on the relatively small Tangle Lakes. Limiting use to smaller motors will help to limit the amount of petroleum residue introduced into the lakes. Larger motors produce much more noise and create larger wakes, both of which reduce the enjoyment of this area for other visitors.

Action 1.5: The Bureau will work cooperatively with the State of Alaska to identify all rights-of-way claimed pursuant to RS2477 within the river boundaries for administrative purposes.

Discussion

When rights or title are granted directly by statute, such as RS2477, the Bureau cannot adjudicate these rights. However, for the purpose of carrying out the Bureau's administrative duties, a determination may be made. Such a determination would not affect the legality of an RS2477 right-of-way, but would provide a basis for administrative actions such as acceptance of right-of-way applications or trespass actions.

ITEM 2 - AIRCRAFT USE

Action 2.1: Aircraft operation on the water surface in the "wild" section of the river corridor is prohibited except for fire and rescue operations.

Discussion

The operation of aircraft on the relatively narrow "wild" stretch of the Delta River poses danger for river users. Current operation of aircraft on the Tangle Lakes and on the one airstrip in the river corridor can continue with relative safety. No new airstrips will be constructed within the river corridor.

ITEM 3 - SUBSISTENCE

Action 3.1: The subsistence use of timber for fuelwood and house logs may continue if the user obtains a cutting permit from BLM.

Discussion

There are no saw timber stands that are of sufficient volume and accessible enough to provide a feasible source of logs for local sawmills and markets. Some harvest does occur for use as house logs and fuelwood. This use can continue to occur without affecting the primitive character of the river corridor if appropriate stipulations are included in cutting permits issued for these uses. Commercial logging will not be allowed.

Action 3.2: The subsistence use of fish, wildlife, and vegetation other than timber may continue under applicable State and Federal regulations.

Discussion

The subsistence use of timber is allowed under Action 3.1. The Alaska Department of Fish and Game has responsibility for managing most fish and wildlife in Alaska, and they will continue to regulate subsistence use of these resources.

ITEM 4 - HUNTING, FISHING, AND TRAPPING

Action 4.1: Hunting, fishing, and trapping may continue under applicable State and Federal regulations.

Discussion

These uses are in accord with the Wild and Scenic Rivers Act. The Alaska Department of Fish and Game has responsibility for managing most fish and wildlife in Alaska and will continue to regulate commercial and recreational use of these resources.

ITEM 5 - WATER QUALITY

Action 5.1: All use authorizations will include measures to control water pollution.

Discussion

Using accepted techniques, the user must make every reasonable attempt to achieve established water quality standards for both water discharge and sewage disposal.

Action 5.2: The land manager will cooperate with the Alaska Department of Environmental Conservation, and where appropriate, the US Environmental Protection Agency, for the purpose of preventing, eliminating, or diminishing the pollution of river water levels consistent with the Federal Clean Water Act or Federally Approved State Water Quality Standards.

ITEM 6 - MINERAL DEVELOPMENT

Action 6.1: The plan approval process for mining operations within the river corridor as outlined in the approved FLPMA land use plans for this area will be carried out in a timely and efficient manner.

Discussion

Regulations under 43 CFR 3809 emphasize the right of miners to carry out their operations in a reasonable manner. Prompt action on requests could help to eliminate or reduce violations of these restrictions. Regulations require a plan of operation for all mining work performed within the boundary of a WSR. These plans will be assessed to determine the effects upon the environment, the adequacy of the reclamation plan, and whether the proposed operations are reasonable and necessary.

Action 6.2: Adequate material sources will be located and designated for highway construction and maintenance within the "recreational" section of the river corridor in locations having the least impact on existing transportation facilities, private property, the Trans-Alaska Pipeline System, or on visual, cultural, wildlife, or other resource values.

Discussion

The existing highway along the lower portion of the river management corridor is in need of realignment in many areas. Because of the steep terrain in this area, some realignment of the roadbed will be necessary, moving it closer to the Delta River. Riprap will be necessary at many places to avoid bank erosion and to protect the highway. The Alaska Department of Transportation and Public Facilities plans to replace nearly all of the bridges along the Richardson Highway from Donnelly to McCallum Creek. Maintenance of existing highway protection control dikes, as well as construction of future dikes, is necessary. The bridge across the Tangle River will also be replaced. Alyeska Pipeline Service Company will continue to extract gravel from authorized sites for pipeline maintenance and maintenance of diversion dikes.

ITEM 7 - FACILITIES

Action 7.1: Facility development will generally be limited to existing areas at Tangle Lakes and Tangle River campgrounds, and at the take-out near mile 212 Richardson Highway.

Discussion

The existing facilities are of adequate size and are sufficiently developed to provide access to the Tangle Lakes and Delta River. Comments received indicate that existing access is sufficient and that no new access facilities are needed. Increasing use of the river corridor may require additional toilet installation in the future. The access road to Tangle Lakes Campground needs to be improved.

Action 7.2: Maintenance of put-in and take-out areas, toilets, portages, river banks, lake shores, campsites, and campgrounds will be provided on a scheduled basis from June through September.

Discussion

Toilets are provided at the put-ins and at the portage. The portage requires yearly maintenance to provide for safe use because parts of the portage wash out in heavy rains each year. River banks, lake shores, and campsites require cleanups from June through September.

ITEM 8 - VISITOR MANAGEMENT

Action 8.1: Situations that present serious hazards to people using the river corridor will be identified and eliminated or reduced.

Discussion

Warning and take-out signs will be maintained at the portage to warn of the dangerous rapids and falls downstream of that location. Toilets will be maintained to preclude health hazards. Caution information concerning bears, location of hazards, high or low water, etc., will be made available at the put-ins. Search and rescue information will also be posted on the information boards, and boating safety will be encouraged by posting a list of safe boating practices.

Action 8.2: The amount and type of use that the Delta River management corridor can perpetually sustain without impairing its scenic and primitive character or causing an unacceptable change to the experience of the user will be determined.

Discussion

The determination of the amount and type of use is necessary to insure compliance with the Wild and Scenic Rivers Act. This level of use can be estimated from a determination of the following:

- Physical carrying capacity; i.e., the amount of parking space available at put-ins and take-outs, the amount of shore space and setup area at put-ins and take-outs, the number of people that can use the portage at the same time, and the number of existing and potential campsites. This capacity can be changed by design to support the biological carrying capacity.
- Biological carrying capacity; i.e., the number of people that the various ecosystems can withstand within acceptable limits of change. The three basic ecosystems within the river management corridor are aquatic, riparian (riverbank), and upland.
- Social carrying capacity, within the context of this plan, refers to the number of people that can be on the lakes and river at the same time and still enjoy a primitive (for "wild" section of river) or scenic outdoor adventure or experience.

Action 8.3: The level of use on the designated stretch of the Delta River will be set if necessary, after completion of carrying capacity studies.

Discussion

No unacceptable changes to the river corridor are apparent at the present level of use.

Action 8.4: Allocation of the allowable maximum use days will be distributed equitably between commercial and noncommercial recreation users. If necessary, a permit system will be implemented. In any case all commercial river users must obtain a Special Recreation Use Permit (43 CFR 8372.1-1).

Discussion

Present commercial river use is estimated to be less than 5 percent of existing use; however, the demand for this type of use is increasing. This action would provide for people who prefer to pay for a guided and/or outfitted river trip.

Action 8.5: Interpretive information will be provided through the use of information boards at the put-ins.

Discussion

Pertinent information such as a map of the river and adjacent area, time required for a float trip, species and habits of fish and wildlife in the area, location of dangerous rapids, historic use of the area, etc., can add to the enjoyment and increase the safety of river users.

Action 8.6: A reduced party size for groups floating the designated stretch of the Delta River will be encouraged through standard public information methods.

Discussion

Smaller party sizes would accommodate most groups seeking a primitive experience on the Delta River. A larger group would affect the primitive quality of a river experience for members of any smaller groups they might encounter.

Action 8.7: Launch frequency will remain at the discretion of the users.

Discussion

There is no foreseeable need to limit launch frequency. All comments concerning launch frequency were against setting any limits on launching.

Action 8.8: Competitive events on the wild section of river corridor are prohibited.

Discussion

Events of this nature are out of place in a primitive setting. Some types of competitive events within the scenic and recreational sections may be allowed at the discretion of the Area Manager.

Action 8.9: The use of minimum-impact camping techniques will be promoted through standard public information methods.

Discussion

Use of these camping techniques allows a group to use a campsite in a manner that leaves the least impact on a campsite. The use of these techniques should be promoted through the use of a descriptive brochure and through personal contact. Minimum-impact camping is a function of attitude and awareness rather than one of rules and regulations.

ITEM 9 - HISTORIC AND ARCHEOLOGICAL RESOURCES

Action 9.1: Surface-disturbing projects within that part of the river corridor that lies within the Tangle Lakes Archeological District will not be allowed without implementing 36 CFR 800.

Discussion

The National Historic Preservation Act provides for cultural resource "consideration"; National Register status and wild and scenic river designation provides a cultural resource with protection or enhancement. In this case consideration and protection can be accomplished by preventing disturbance of archeological sites at this planning level. Proposed surface-disturbing activity will require cultural resource inventory throughout the corridor, and significant historical sites will be avoided or mitigated as appropriate. Significant impacts to archeological sites in the recreational section will also be avoided or mitigated.

Action 9.2: Cultural resource interpretive displays will be provided on the information boards at Tangle Lakes and Tangle River campgrounds.

Discussion

Interpretation of the cultural resources of the Delta River Management corridor will help to provide the public with an awareness of the importance of these resources and of their susceptibility to damage. It will increase the enjoyment of visitors in this area and help to gain acceptance of off-road vehicle restrictions.

ITEM 10 - FIRE MANAGEMENT

Action 10.1: Wildfires within the river corridor will be suppressed in compliance with BLM policy, which calls for full or modified fire protection. A fire management plan soon to be completed will provide details and fire management strategy.

Discussion

A fire management plan is being drafted for a portion of Southcentral Alaska in cooperation with other Federal agencies, agencies of the State of Alaska, and major land owners.

Action 10.2: Open fires within the river corridor are prohibited during periods of extreme fire danger except at designated campgrounds along the highway system.

Discussion

Many fires in Alaska are caused by people using open campfires at times when fire danger is high. Prohibiting use of such fires during periods of extreme fire danger will reduce the possibility for wildfire. Fire closure of the Delta River area is generally included in State fire closures.

ITEM 11 - STATE AND PRIVATE LANDS

Action 11.1: A cooperative management agreement with the State should be developed, if necessary, to manage any navigable waterbodies and their beds adjacent to the river corridor.

Discussion

If any of the Tangle Lakes or any stretch of the Delta River is determined to be navigable, the State owns the bed of that waterbody within its ordinary high water marks. A management agreement with the State should consider (1) use of the waterbody, (2) mining claims on State Land, (3) use of the land within the ordinary high water marks of navigable waters, (4) water quality, (5) instream water rights, (6) guidelines for visitor management, and (7) other considerations necessary for sound management of the Tangle Lakes and Delta River. There is no foreseeable need to purchase scenic easements or affect the use of the private land within the river corridor in any other way.

ITEM 12 - BIOTIC RESOURCES

Action 12.1: A soil surface monitoring program will be developed to quantify soil and vegetation disturbance associated with recreation use.

Discussion

Foot traffic and campsite use has affected soil and vegetation at the portage and at campsites. Some erosion has occurred at these sites. Quantifying these disturbances can help influence positive management direction.

Action 12.2: The Delta River Habitat Management Plan, which includes programs for inventory and monitoring fish and wildlife and their habitats, will be implemented insofar as the actions in that plan are in accord with the Wild and Scenic Rivers Act.

Discussion

Action will be taken to comply with the Bald Eagle Protection Act of 1940, as amended. Raptor nest sites within the river corridor will be inventoried. The river and lakes will be periodically examined for fuel and oil contamination. Use of prescribed fire to improve moose habitat may be considered.

ITEM 13 - SCENIC QUALITY

Action 13.1: The "wild" section of the river corridor will be managed to maintain existing natural scenic qualities. The "scenic" and "recreational" sections will be managed to minimize the visual impacts of changes in the landscape caused by man.

Discussion

This action is in accord with management guidelines for "wild" sections of wild and scenic rivers. It provides primarily for natural ecological changes. However, it does not preclude limited management activity. Man-caused contrast created within the characteristic environment must not attract attention. Some development in the "scenic" and "recreational" sections will occur. Landscape contrasts caused by man should not be dominant in the characteristic landscape. Development of valid existing mining claims is allowed under an approved plan of operation.

ITEM 14 - PIPELINES AND ELECTRICAL TRANSMISSION

Action 14.1: Pipelines and other utility lines will be allowed within the river corridor under the provisions contained in ANILCA and WSRA.

Discussion

The utility corridor is an existing land use allocation. ANILCA and WSRA both provide for pipelines and other utility lines within wild and scenic river corridors. The protection of scenic and other values will be addressed in an environmental analysis for any proposed utility route.

ITEM 15 - OIL AND GAS DEVELOPMENT

Action 6.1 for Item 6, Mineral Development, also applies to oil and gas development.

ITEM 16 - NAVIGABILITY

This issue was addressed in Item 11, State and Private lands, under Action 11.1 which provides for a management agreement with the State.

ITEM 17 - CLASSIFICATION OF TANGLE LAKES AND TANGLE RIVER

Action 17.1: The Tangle Lakes and Tangle River will be classified and managed as a "scenic" component of the National Wild and Scenic Rivers System as defined in the WSRA.

Discussion

By designating, but not classifying, this section of the river corridor, Congress gave BLM the responsibility of classifying it. The Bureau of Outdoor Recreation recommended that it be classified as "scenic," and subsequent study by BLM concurs with this recommendation. This section of the river corridor meets all the criteria for "scenic" classification contained in the WSRA.

ITEM 18 - WATER RIGHTS

Action 18.1: A reservation of minimum water flows sufficient for public recreation and to support the values for which the area was designated will

be determined in cooperation with the Alaska Department of Natural Resources, Division of Land and Water Management.

Discussion

The jurisdiction of the State over waters within the river corridor may be exercised only to the extent that such jurisdiction does not impair the purposes for which the National WSR was established (WSRA Section 13).

The legal descriptions are based on the unsurveyed 1 inch = 1 mile state boundary map appended to this river management plan. In case of discrepancy, these maps will control.

Legal Description

lands included within wild, scenic, and recreational river boundaries.

WILD RIVER BOUNDARIES

PART IV - APPENDIX

Geographic Section

T. 14 S., R. 10 E.	Unsurveyed
Section 20	All land west of the Richardson Highway
Section 26	2000
Section 28	1/2 NW, NE, NW, SE, SW
T. 14 S., R. 10 E.	Unsurveyed
Section 1	NE, NW, SE
Section 2	All
Section 10	SE
Section 12	NE, NW, SE, SW
Section 14	SW
Section 20	All
Section 22	NE, NW, SE, SW
Section 24	NE, NW, SE, SW
Section 26	NE, NW
Section 27	NE, NW
Section 28	NE, NW, SE, SW
Section 29	NE, NW
T. 14 S., R. 10 E.	Unsurveyed
Section 2	NE
Section 3	NE, NW, SE, SW
Section 4	SW
Section 7	NE
Section 8	NE
Section 9	NE, NW, SE
Section 12	NE, NW, SE, SW
Section 11	SW
Section 15	NE, NW
Section 16	NE
Section 17	NE
Section 18	NE, NW, SE
Section 19	SW
T. 14 S., R. 10 E.	Unsurveyed
Section 13	NE, NW, SE, SW
Section 14	NE, NW
Section 23	NE

The legal descriptions are based on the unsurveyed 1 inch = 1 mile scale boundary maps appended to this river management plan. In case of discrepancy, these maps will control.

Legal Description

Lands included within wild, scenic, and recreational river boundaries.

WILD RIVER BOUNDARIES

Fairbanks Meridian

T. 18 S., R. 10 E.	Unsurveyed
Section 25	All land west of the Richardson Highway
Section 35	$E\frac{1}{2}E\frac{1}{2}$
Section 36	$W\frac{1}{2}$, $NE\frac{1}{4}$, $N\frac{1}{2}SE\frac{1}{4}$, $SW\frac{1}{4}SE\frac{1}{4}$
T. 19 S., R. 10 E.	Unsurveyed
Section 1	$NW\frac{1}{4}$, $NW\frac{1}{4}NE\frac{1}{4}$
Section 2	All
Section 10	$E\frac{1}{2}$
Section 11	$W\frac{1}{2}$, $W\frac{1}{2}NE\frac{1}{4}$, $NW\frac{1}{4}SE\frac{1}{4}$
Section 14	$N\frac{1}{2}NW\frac{1}{4}$
Section 15	All
Section 22	$E\frac{1}{2}$, $NW\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$, $NW\frac{1}{4}SW\frac{1}{4}$
Section 23	$SW\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}$, $NW\frac{1}{4}NW\frac{1}{4}$,
Section 26	$W\frac{1}{2}$, $W\frac{1}{2}E\frac{1}{2}$
Section 27	$E\frac{1}{2}$, $E\frac{1}{2}W\frac{1}{2}$
Section 34	$E\frac{1}{2}$, $E\frac{1}{2}NW\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$
Section 35	$W\frac{1}{2}$, $W\frac{1}{2}E\frac{1}{2}$
T. 20 S., R. 10 E.	Unsurveyed
Section 2	$W\frac{1}{2}$
Section 3	$E\frac{1}{2}$, $SW\frac{1}{4}$, $E\frac{1}{2}NW\frac{1}{4}$, $SW\frac{1}{4}NW\frac{1}{4}$
Section 4	$SE\frac{1}{4}SE\frac{1}{4}$;
Section 7	$S\frac{1}{2}$
Section 8	$S\frac{1}{2}$
Section 9	$S\frac{1}{2}$, $NE\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}$
Section 10	$N\frac{1}{2}$, $W\frac{1}{2}SW\frac{1}{4}$, $NE\frac{1}{4}SW\frac{1}{4}$, $NW\frac{1}{4}SE\frac{1}{4}$
Section 11	$NW\frac{1}{4}NW\frac{1}{4}$
Section 15	$NW\frac{1}{4}NW\frac{1}{4}$;
Section 16	$N\frac{1}{2}$
Section 17	$N\frac{1}{2}$
Section 18	$W\frac{1}{2}$, $NE\frac{1}{4}$, $W\frac{1}{2}SE\frac{1}{4}$
Section 19	$N\frac{1}{2}NW\frac{1}{4}$
T. 20 S., R. 9 E.	Unsurveyed
Section 13	$S\frac{1}{2}$, $NE\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}$, $NE\frac{1}{4}NW\frac{1}{4}$
Section 14	$SE\frac{1}{4}$, $S\frac{1}{2}NE\frac{1}{4}$
Section 23	$E\frac{1}{2}$

The legal descriptions are based on the unsurveyed 1 inch = 1 mile scale boundary maps appended to this river management plan. In case of discrepancy, these maps will control.

WILD RIVER BOUNDARIES, continued

Section 24	$W\frac{1}{2}$, $N\frac{1}{2}NE\frac{1}{4}$
Section 25	$NW\frac{1}{4}$
Section 26	$NE\frac{1}{4}$

SCENIC RIVER BOUNDARIES

Fairbanks Meridian

T. 20 S., R. 9 E.	Unsurveyed
Section 25	$SW\frac{1}{4}$
Section 26	$SE\frac{1}{4}$, $SE\frac{1}{4}SW\frac{1}{4}$
Section 34	$SE\frac{1}{4}$
Section 35	$E\frac{1}{2}$, $SW\frac{1}{4}$, $E\frac{1}{2}NW\frac{1}{4}$
Section 36	$W\frac{1}{2}$
T. 21 S., R. 9 E.	Unsurveyed
Section 1	$W\frac{1}{2}W\frac{1}{2}$
Section 2	All
Section 3	$E\frac{1}{2}$
Section 10	$E\frac{1}{2}$
Section 11	All
Section 12	$W\frac{1}{2}W\frac{1}{2}$, $SE\frac{1}{4}SW\frac{1}{4}$
Section 13	$W\frac{1}{2}$
Section 14	All
Section 23	All
Section 24	$W\frac{1}{2}$
Section 25	$W\frac{1}{2}NW\frac{1}{4}$
Section 26	$W\frac{1}{2}$, $NE\frac{1}{4}$, $W\frac{1}{2}SE\frac{1}{4}$, $NE\frac{1}{4}SE\frac{1}{4}$
Section 27	$E\frac{1}{2}$, $S\frac{1}{2}SW\frac{1}{4}$
Section 28	$SE\frac{1}{4}SE\frac{1}{4}$
Section 32	$S\frac{1}{2}SE\frac{1}{4}$, $SE\frac{1}{4}SW\frac{1}{4}$
Section 33	$S\frac{1}{2}$, $E\frac{1}{2}NE\frac{1}{4}$, excluding patents 01227361 and 50670164
Section 34	All, excluding patents 01231360, 50660204, 50650295, 50650270, 01223900, and 50660218
Section 35	$NW\frac{1}{4}$, $W\frac{1}{2}SW\frac{1}{4}$, $NE\frac{1}{4}SW\frac{1}{4}$, $NW\frac{1}{4}NE\frac{1}{4}$, excluding patents 01228443, and 01231322

The legal descriptions are based on the unsurveyed 1 inch = 1 mile scale boundary maps appended to this river management plan. In case of discrepancy, these maps will control.

SCENIC RIVER BOUNDARIES, continued

T. 22 S., R. 9 E.	Unsurveyed
Section 3	NW $\frac{1}{4}$
Section 4	N $\frac{1}{2}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 5	E $\frac{1}{2}$, SW $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$
Section 6	E $\frac{1}{2}$ SE $\frac{1}{4}$
Section 7	E $\frac{1}{2}$ E $\frac{1}{2}$
Section 8	All
Section 9	W $\frac{1}{2}$ W $\frac{1}{2}$
Section 16	W $\frac{1}{2}$
Section 17	All
Section 18	SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, E $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$
Section 19	E $\frac{1}{2}$, SW $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$
Section 20	All
Section 21	W $\frac{1}{2}$
Section 28	W $\frac{1}{2}$
Section 29	All
Section 30	All
Section 31	All
Section 32	All
Section 33	W $\frac{1}{2}$
T. 22 S., R. 8 E.	Unsurveyed
Section 24	E $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$
Section 25	S $\frac{1}{2}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$
Section 26	S $\frac{1}{2}$
Section 27	E $\frac{1}{2}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 33	SE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$
Section 34	All
Section 35	All
Section 36	All

Copper River Meridian

T. 14 N., R. 5 W.	Unsurveyed
Section 31	E $\frac{1}{2}$
Section 32	All
Section 33	All
Section 34	All
Section 35	All
Section 36	N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$

The legal descriptions are based on the unsurveyed 1 inch = 1 mile scale boundary maps appended to this river management plan. In case of discrepancy, these maps will control

SCENIC RIVER BOUNDARIES, continued

T. 14 N., R. 4 W.	Unsurveyed
Section 31	$N\frac{1}{2}, N\frac{1}{2}S\frac{1}{2}$
Section 32	$W\frac{1}{2}NW\frac{1}{4}, NW\frac{1}{4}SW\frac{1}{4}$
T. 13 N., R. 5 W.	Unsurveyed
Section 5	$N\frac{1}{2}NW\frac{1}{4}$
Section 6	$N\frac{1}{2}NE\frac{1}{4}$

RECREATIONAL RIVER BOUNDARIES

Fairbanks Meridian

T. 16 S., R. 10 E.	Unsurveyed
Section 17	All land west of the Richardson Highway
Section 18	$E\frac{1}{2}E\frac{1}{2}$
Section 19	$E\frac{1}{2}E\frac{1}{2}$
Section 20	All land west of the Richardson Highway
Section 29	All land west of the Richardson Highway
Section 30	$E\frac{1}{2}E\frac{1}{2}$
Section 31	$E\frac{1}{2}$
Section 32	All land west of the Richardson Highway
T. 17 S., R. 10 E.	Unsurveyed
Section 4	All land west of the Richardson Highway
Section 5	$E\frac{1}{2}$
Section 8	$E\frac{1}{2}NE\frac{1}{4}$
Section 9	All land west of the Richardson Highway
Section 10	All land west of the Richardson Highway
Section 14	All lands west of the Richardson Highway
Section 15	All lands west of the Richardson Highway
Section 16	$NE\frac{1}{4}, NE\frac{1}{4}NW\frac{1}{4}, N\frac{1}{2}SE\frac{1}{4}, SE\frac{1}{4}SE\frac{1}{4}$
Section 22	$NE\frac{1}{4}, E\frac{1}{2}SE\frac{1}{4}$

The legal descriptions are based on the unsurveyed 1 inch = 1 mile scale boundary maps appended to this river management plan. In case of discrepancy, these maps will control.

RECREATIONAL RIVER BOUNDARIES, continued

Section 23	All land west of the Richardson Highway
Section 24	All land west of the Richardson Highway
Section 25	$W\frac{1}{2}W\frac{1}{2}$
Section 26	$E\frac{1}{2}$, $E\frac{1}{2}NW\frac{1}{4}$
Section 35	$E\frac{1}{2}$
Section 36	$W\frac{1}{2}W\frac{1}{2}$
T. 18 S., R. 10 E.	Unsurveyed
Section 1	$W\frac{1}{2}$
Section 2	$NE\frac{1}{4}$, $E\frac{1}{2}SE\frac{1}{4}$
Section 12	$N\frac{1}{2}$, $SE\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$
Section 13	$E\frac{1}{2}$, $E\frac{1}{2}NW\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$
Section 24	All land west of the Richardson Highway except the $W\frac{1}{2}W\frac{1}{2}$

The area as described, excluding areas between ordinary high water marks for designated streams, contains approximately 37,000 acres, subject to adjustment to lines of public land surveys.

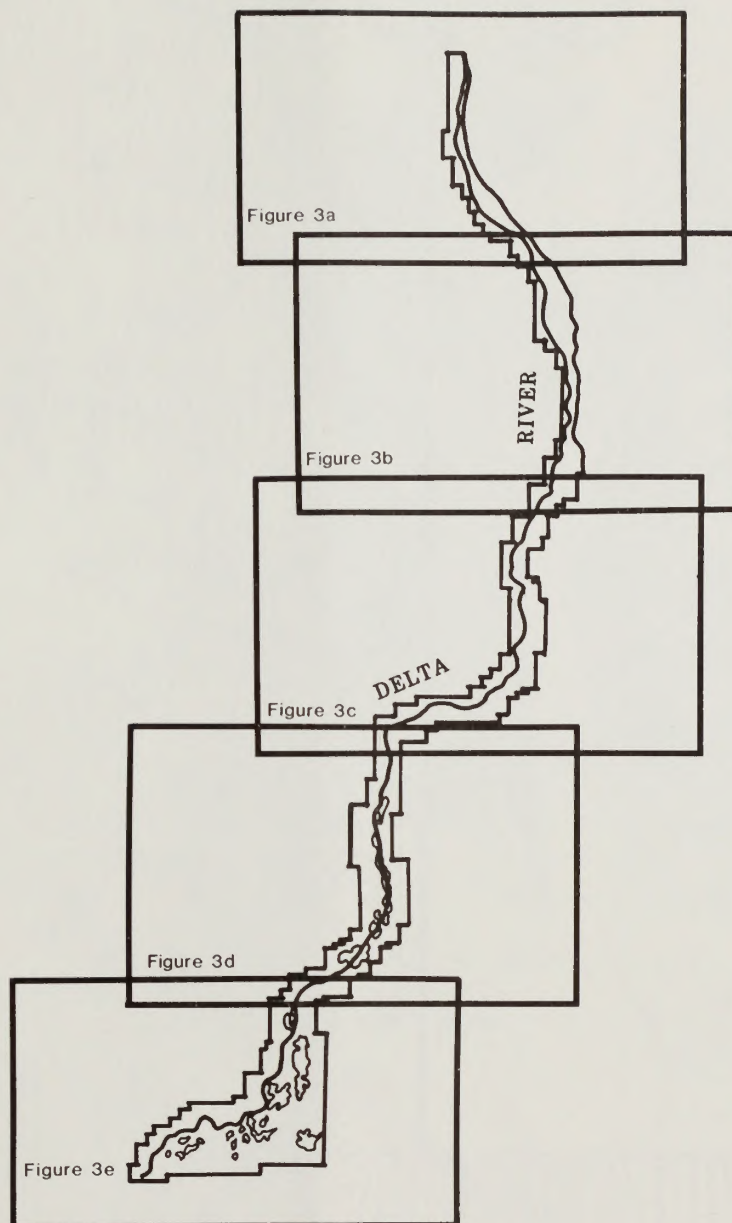


Figure 3
INDEX MAP
to Figures 3a,3b,3c,3d, and 3e

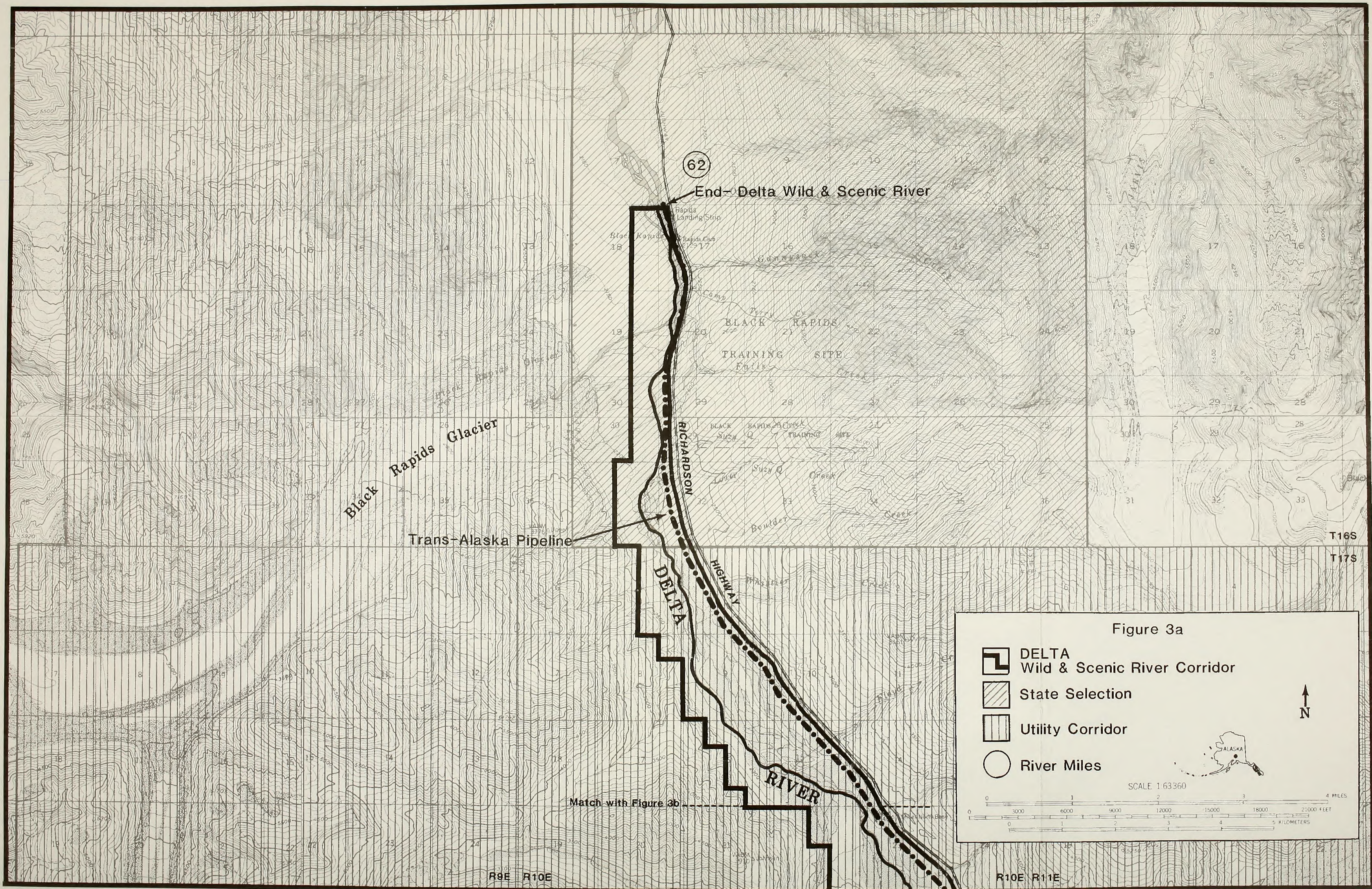
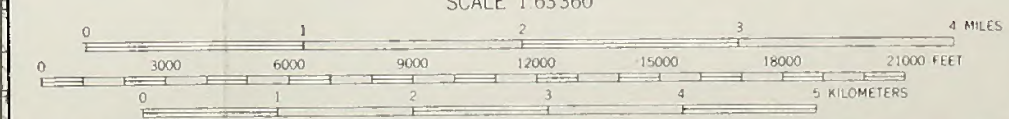


Figure 3a

-  DELTA Wild & Scenic River Corridor
-  State Selection
-  Utility Corridor
-  River Miles



SCALE 1:63,360



Match with Figure 3b

R9E R10E

R10E R11E

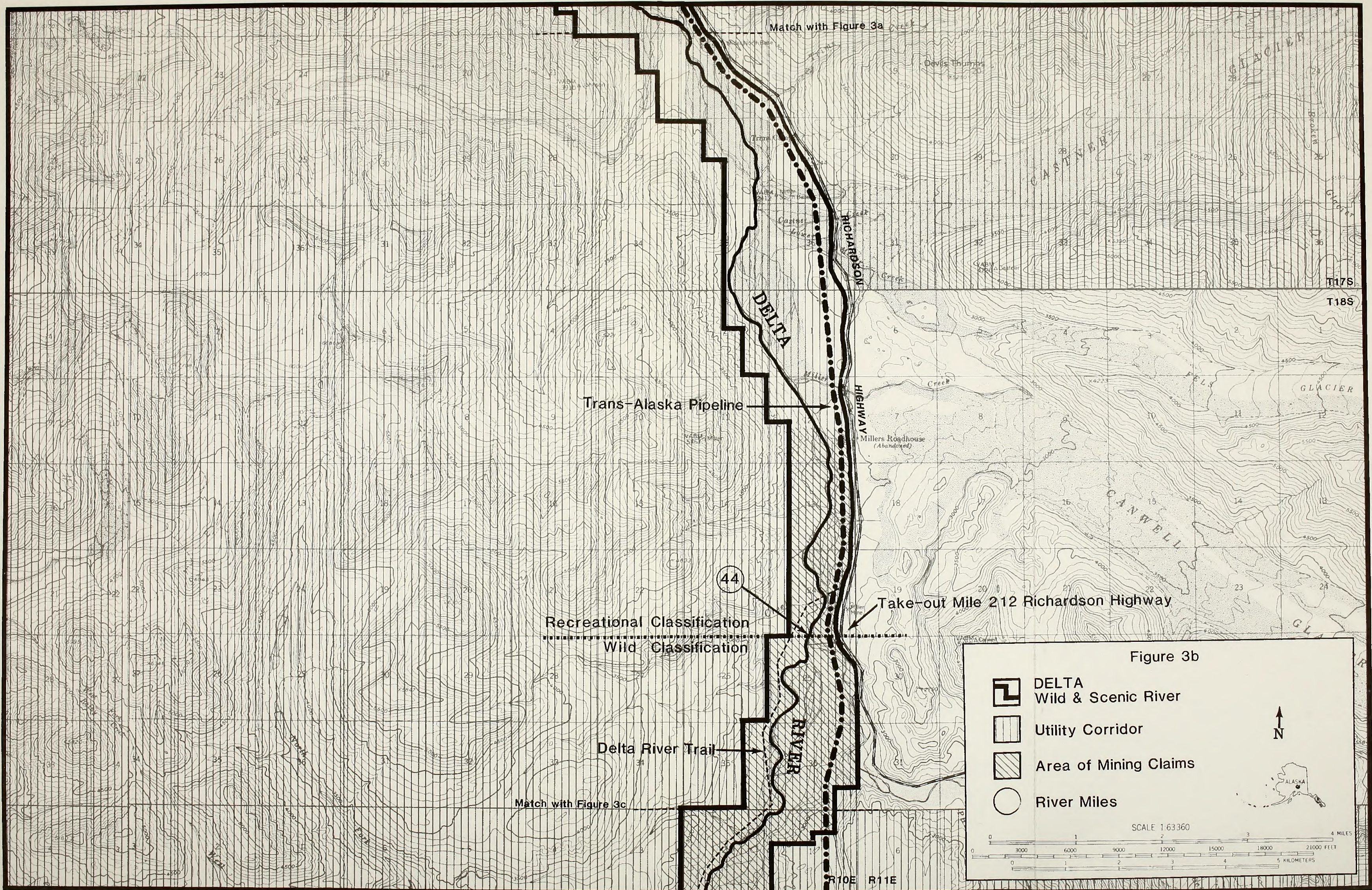
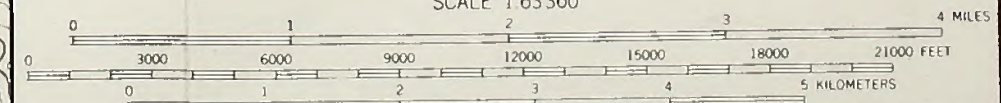


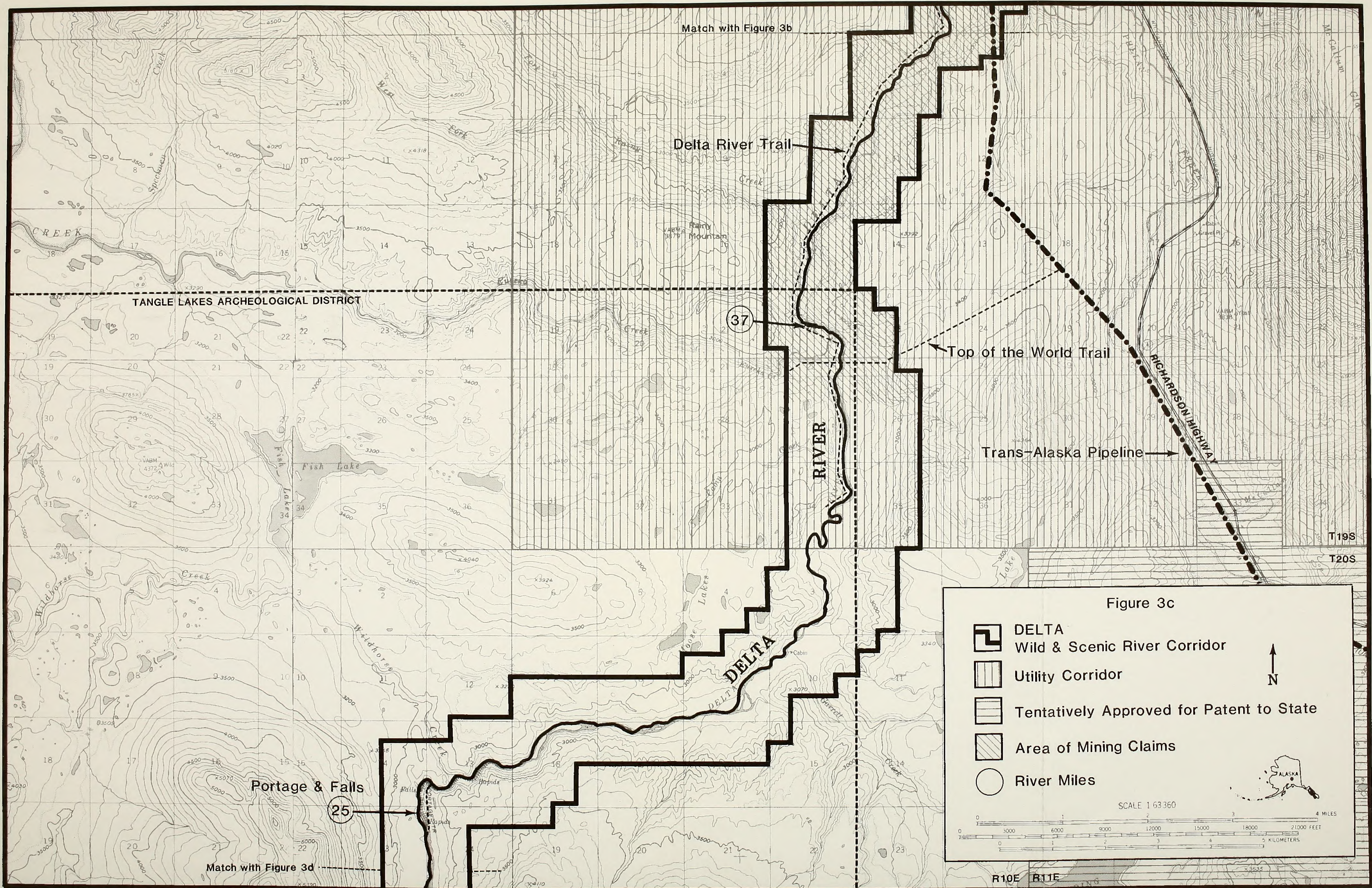
Figure 3b

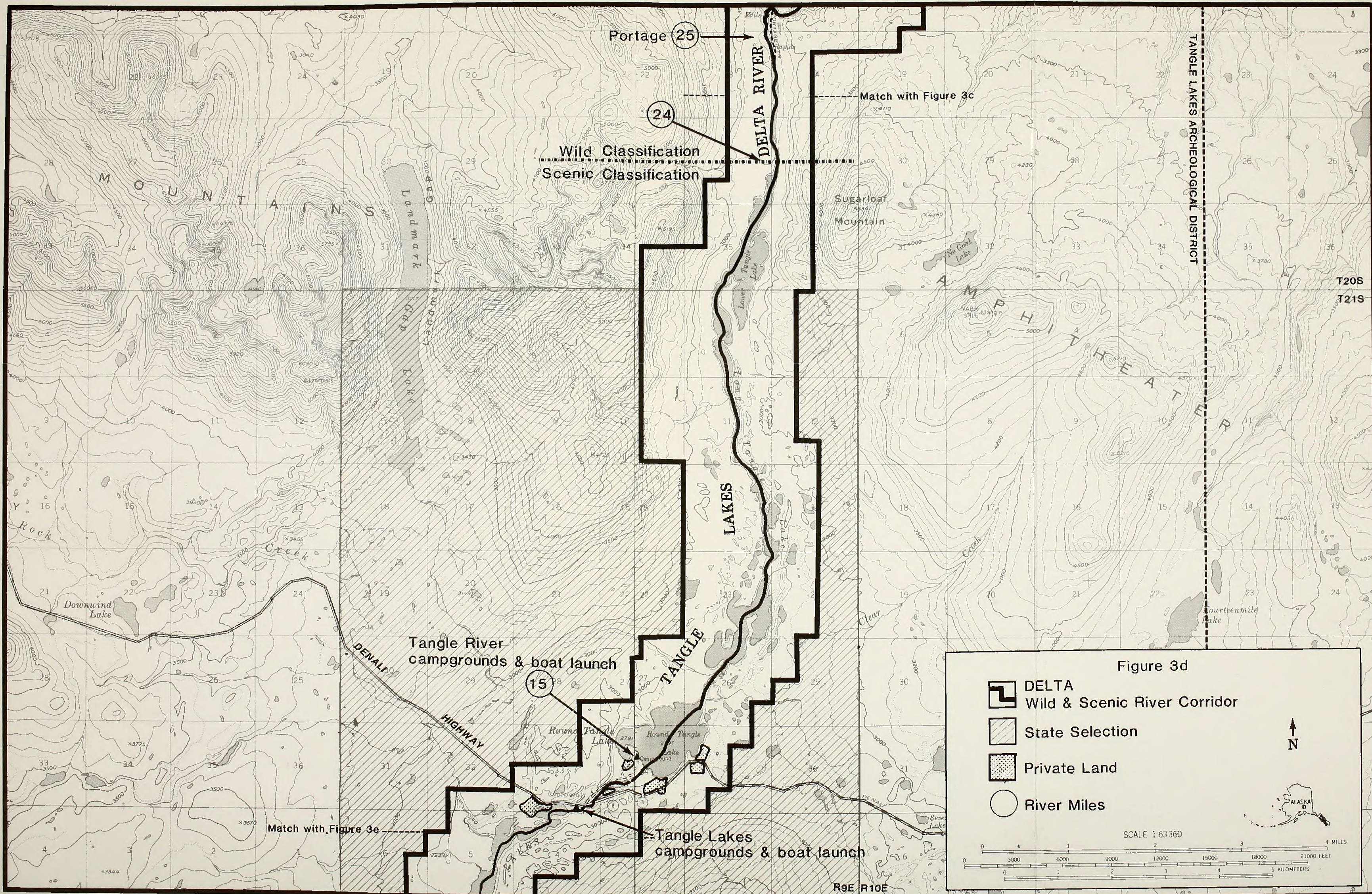
- DELTA Wild & Scenic River
- Utility Corridor
- Area of Mining Claims
- River Miles

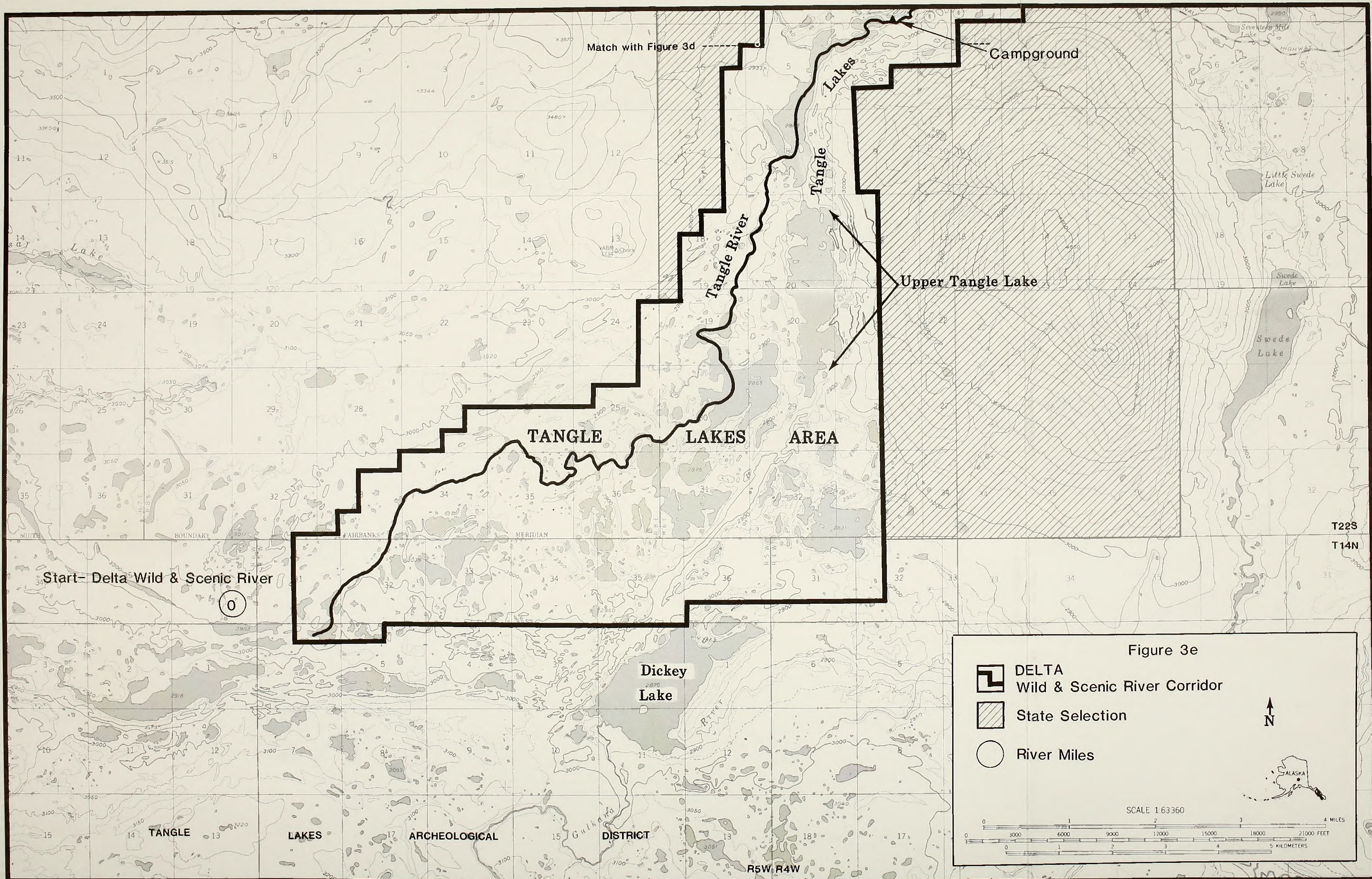


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